

STATE OF CALIFORNIA
FISH AND GAME COMMISSION
INITIAL STATEMENT OF REASONS FOR REGULATORY ACTION
(Pre-publication of Notice Statement)

Amend Section 163
Title 14, California Code of Regulations
Re: Harvest of Herring

I. Date of Initial Statement of Reasons: May 22, 2004

II. Dates and Locations of Scheduled Hearings:

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| (a) | Notice Hearing: | Date: June 25, 2004
Location: Crescent City, CA |
| (b) | Discussion Hearing: | Date: August 6, 2004
Location: Bridgeport, CA |
| (c) | Adoption Hearing: | Date: August 27, 2004
Location: Morro Bay, CA |

III. Description of Regulatory Action:

- (a) Statement of Specific Purpose of Regulation Change and Factual Basis for Determining that Regulation Change is Reasonably Necessary:

Under existing law, herring may be taken for commercial purposes only under a revocable permit, subject to such regulations as the Fish and Game Commission shall prescribe. Current regulations specify: permittee qualifications; permit application procedures and requirements; permit limitations; permit areas; vessel identification requirements; fishing quotas; seasons; gear restrictions; quotas; and landing and monitoring requirements.

Pacific herring occur in four primary spawning areas of California, in San Francisco Bay, Tomales Bay, Humboldt Bay, and Crescent City Harbor. The Department manages these populations as separate stocks. The commercial herring fisheries on these stocks are closely regulated through a catch quota system to provide for adequate protection and utilization of the herring resource. The Department conducts annual assessments of the size (spawning biomass) of the spawning populations of herring in San Francisco and Tomales bays. In addition to the assessment of spawning biomass, the Department examines the age structure of the spawning population, growth and general condition, biological aspects of the catch, and environmental conditions. These data serve as the basis for establishing fishing quotas for the next successive season.

The 2003-04 spawning biomass estimate for San Francisco Bay is 34,400 tons (including catch), which is below the 26-year average of 51,521 tons. One of the Department's fishery management goals is to allow the harvest of age four and older herring and to avoid the harvest of two and three year old herring which are entering the Bay to spawn for the first time. However, since the 1997-98 El Niño, there has been a decline in the estimated number of age four and older herring which support the fishery. There has also been an increase in the number of three year old herring in the catch.

Biologist's concerns about the status of the San Francisco Bay population led the

Department to seek an independent peer review following the 2002-03 season through the California Sea Grant program (see Attachment 1). The review focused on the use of a stock assessment model for the San Francisco Bay herring population as well as the survey methodologies (spawn deposition survey and hydroacoustic survey) used to generate the annual spawning biomass estimate in San Francisco Bay. The peer review panel's review found that the San Francisco Bay herring population has been reduced to a level of roughly 20 percent of its unfished level and is presently at or near the lowest abundance observed since the 1970's. The peer review panel also found that the age composition of the catch has changed towards younger individuals. The peer review panel recommended that the Department implement a rebuilding policy.

The peer review panel also noted that the tendency of using the higher value of either the spawn survey or the hydroacoustic survey, during the process of merging the surveys, as the basis for setting quotas has contributed to the overestimation of spawning biomass and subsequently, overexploitation of the population by the commercial fishery. In addition, the peer review noted, the spawn deposition survey tends to underestimate spawning biomass by about 10 percent and the hydroacoustic survey tends to overestimate the spawning biomass by about 20 percent. The errors (coefficients of variation) in the annual spawning biomass indices are about 40 percent for the spawn deposition survey and about 75 percent for the hydro-acoustic survey, indicating that the spawn deposition survey is a better estimate of the spawning biomass. Based on the Department's continued concerns about the status of the San Francisco Bay herring population and the recommendations of the peer review panel, the biomass estimate for the 2003-04 season is based on the spawn deposition survey as a conservative measure.

In response to the peer review report recommendations and in an effort to facilitate re-building the population, the Department is moving forward with the following: (1) the Department is proposing a 10 percent exploitation rate for the 2004-05 season; (2) the Department is researching options for establishing a population threshold; (3) the spawn deposition survey will continue on an annual basis as the primary index of abundance and biomass estimate, and the hydro-acoustic survey will continue as support for the spawn deposition survey; and (4) random sampling, instead of collecting 17 fish per 10 millimeter size intervals, is now the method used for obtaining age composition information from the fishery and survey catch. Final age composition continues to be done by aging the otoliths (ear bones).

The proposed regulatory changes establish fishing quotas by area for the 2004-05 herring fishing season. Within the overall quota for San Francisco Bay, separate quotas are established for each gill net platoon (i.e., December ("DH"), Odd, and Even fishing groups). The overall quota is divided among the three platoons in proportion to the number of permits assigned to each platoon. Slight annual adjustments in the quota assignments for each fishing group are needed to account for attrition of permittees and the use of herring permits in the herring eggs on kelp fishery. In addition, annual management recommendations, to improve or provide for the efficient harvest and orderly conduct of the herring fishery, are solicited from interested fishermen and individuals at public meetings and from the Director's Herring Advisory Committee (DHAC), which is composed of various representatives from the commercial herring fishing industry (see Attachment 2,3,4,5,6). The proposed amendments to Section 163, Title 14, CCR, reflect, in part, Department recommendations presented to the Director's Herring Advisory Committee. The Department will also prepare an Environmental Document, pursuant to the requirements of the California Environmental Quality Act. This Environmental Document will be released for public review in late July 2004. Certification of the Environmental Document is scheduled to occur at the August 27, 2004, Commission

meeting in San Luis Obispo, California.

The proposed quota for the 2004-05 San Francisco Bay herring fishery is 3,440 tons, representing 10 percent of the 34,400 ton estimated spawning biomass (see Attachment 2). The biomass estimate serves as the foundation for setting annual fishing quotas. Annual fishing quotas are conservatively set and have been limited to a total commercial catch of not more than 20 percent (exploitation rate) of the spawning biomass, to ensure adequate protection for the herring resource and provide for the long-term yield of the fishery. In practice, the exploitation rate has typically been set between 10 and 15 percent of the previous season's spawning biomass estimate. Exploitation rates are not determined by a fixed mathematical formula, rather, they are modified based on additional biological data collected each season, such as oceanic conditions, growth rates of herring, strength of individual year-classes, and predicted size of incoming year-classes (i.e., recruitment). For example, in response to poor recruitment, and/or unfavorable oceanographic conditions, exploitation rates for the 1992-93, 1993-94, 1994-95, 1997-98, 2000-01, 2001-02 and 2002-03 fishing seasons in San Francisco Bay were set at 12, 10, 12, 12, 10, 12 and 10 percent, respectively. The peer review report recommended a harvest rate of 10 to 15 percent with a lower level, within that range, providing a target for stock rebuilding. Given the peer review findings regarding the tendency to overestimate the biomass, and consequently, apply an overly aggressive exploitation rate, the Department is proposing a 10 percent exploitation rate for the 2004-05 season in San Francisco Bay. The Department feels that a conservative approach to the quota recognizes the concerns regarding the population size and age structure indicated in both the Department data and the peer review report.

In Tomales Bay, the 2003-04 spawning biomass estimate is 12,124 tons, which is 177 percent more than the 2002-03 biomass estimate of 4,382 tons, and is 199 percent greater than the previous eleven season average of 3,327 tons. The 2003-04 spawning biomass estimate is the largest estimate since the fishery re-opened in Tomales Bay for the 1992-93 season, and it is the second largest estimate ever recorded in the history of the Tomales Bay herring fishery.

During the 2003-04 season, the commercial gill net catch for the Tomales Bay herring fishery was below the Department's established maximum seasonal quota of 500 tons, and did not surpass the 300 ton initial quota. The Department's goal is to set the Tomales Bay initial quotas at no more than a conservative 10 percent of the previous season's spawning biomass (half of the 20 percent maximum exploitation rate suggested in the Final Environmental Document for Pacific Herring Commercial Fishing Regulations 1998). The initial quota for Tomales Bay is set at a conservative level, below ten percent of the previous season's biomass estimate, with regulatory provision to increase the quota based on in-season spawning assessments conducted by the Department. The exploitation rate for this fishery has averaged 4.9 percent since the 1992-93 season. The exploitation rate during this period has exceeded 10 percent twice, in the 1995-96 and 1996-97 seasons, at 17 percent and 14.7 percent respectively.

Subsection (g)(3)(A) specifies that the initial quota for Tomales Bay shall not exceed 300 tons. For the 2004-05 season, the Department proposes to set the initial Tomales Bay catch quota at 400 tons, which is 3.3 percent of the 2003-04 estimated spawning biomass of 12,124 tons. The proposal for an increased initial quota reflects improvement in the Tomales Bay herring population which has seen four consecutive seasons of above average spawning biomass, since the fishery was re-opened in 1992-93. An initial quota of 400 tons still remains a conservative starting point for next season, and represents an exploitation rate of

less than 10 percent of the average spawning biomass since the fishery was re-opened in the 1992-93 season. Since the implementation of the "one net per permittee" restriction, the Tomales Bay commercial catch has only exceeded 300 tons twice, during the 1995-96 and 2001-02 seasons. A 400-ton initial quota would provide Tomales Bay permittees with a quota that reflects improvement in the Tomales Bay spawning biomass, but still remains conservative to prevent over harvesting. The proposed regulations also contain provisions to increase the quota based on in-season estimates of spawning escapement. If the spawning escapement reaches or exceeds 4,000 tons prior to February 15, 2005, the quota shall be increased so that the total take of herring shall not exceed 500 tons for the season.

No changes to the regulations pertaining to quotas are proposed for Humboldt Bay or Crescent City Harbor herring fisheries.

Season opening and closing dates for San Francisco and Tomales bays, as well as the dates of various provisions of the regulations, are adjusted each year to account for annual changes in the calendar. The consensus of the DHAC, which met on March 25, 2004, was to recommend that the dates of the roe herring fisheries in San Francisco Bay be set from 5 p.m. on Sunday, December 5, 2004 to noon on Thursday, December 23, 2004 ("DH" gill net platoon only), and re-opened at 5:00 p.m. on Sunday, January 2, 2005. At the April 30, 2004 DHAC meeting the consensus was to set the season closing date at noon on Friday, March 11, 2005. The consensus among Tomales Bay permittees was to recommend opening at 5:00 p.m. on Sunday, December 26, 2004 until noon on Friday, December 31, 2004, and from 5:00 p.m. on Sunday, January 2, 2005 to noon on Friday, February 25, 2005.

Mesh size is used to control the size of fish targeted by the fishery. Existing regulations for the Tomales Bay fishery provided for the experimental use of a gill net mesh size of no less than 2 inches and no greater than 2 ½ inches for the 2003-04 roe herring fishery season only. This was the fourth consecutive season that the experimental mesh size was used. The minimum mesh size of 2 inches in the Tomales Bay gill net fishery allowed the Department to continue to: (1) evaluate the use of this mesh size on the size and age composition of the current population; and (2) assess whether increased catch per unit effort (CPUE) could be obtained for the catch and still maintain the Department's management goal of a conservative 10 percent, or less, exploitation rate. Department data indicate that the management goal regarding size and age classes caught was maintained with the use of mesh no less than 2 inches during the 2003-04 season. The current regulation specifies that the mesh size shall revert to no less than 2 1/8 inches or greater than 2 ½ inches after the 2003-04 season, unless otherwise designated herein. However, the Department believes that a study period of more than four seasons is necessary to obtain sufficient data to evaluate the use of this mesh size, assess its impact on CPUE, and ensure Department management goals are maintained. The Department recommends continuation of the use of a gill net mesh size of no less than 2 inches or greater than 2 ½ inches in Tomales Bay for the 2004-05 herring roe fishery season only. The Department will re-evaluate whether to continue with this experimental mesh size following the 2004-05 season.

At the August 29, 2003 Fish and Game Commission meeting, the Commission encouraged the herring industry and the Department to work towards better communication. To this end, the Department has sought to improve communication with the herring industry through a facilitated meeting process. An aspect of this facilitated process involves the active recording of requests and comments during the

annual DHAC meetings and following up any requests with written responses (see Attachments 3,7). The Department held a subsequent DHAC meeting on April 30, 2004 to answer further questions and hear comment on the 2003-04 spawning biomass estimate and the proposed quota for the 2004-05 season (see Attachment 6). It is the Department's goal, in utilizing facilitation, to provide clear and consistent information regarding herring fishery management, research, and industry participation in the regulatory process.

Another Department proposed regulatory change is a correction to references to subsection (g)(4)(B) in subsection (h). These references changes are made for accuracy purposes. The correct reference is subsection (g)(4)(A).

(b) Authority and Reference Sections from the Fish and Game Code for Regulation:

Authority: Sections 1050, 5510, 8550, 8553 and 8555, Fish and Game Code.

References: Sections 309, 8043, 8550, 8552, 8552.6, 8553, 8554, 8555, 8556, 8557 and 8559, Fish and Game Code.

(c) Specific Technology or Equipment Required by Regulatory Change:

No new or specific technologies or equipment are required as a result of the proposed action.

(d) Identification of Reports or Documents Supporting Regulation Changes:

- (1) Peer Review of the California Department of Fish and Game's Commercial Pacific Herring Fishery Management and Use of the Coleraine Fishery Model.
- (2) San Francisco Bay Herring Fishery, 2003-04 Season Spawning Biomass Estimate and Proposed Quota for the 2004-05 Season.
- (3) Informational Handout Packet for herring fisheries in (a) San Francisco Bay; (b) Tomales Bay; (c) Humboldt Bay, Crescent City Harbor.
- (4) Meeting Notes, Director's Herring Advisory Committee Meeting, March 25, 2004, San Francisco, California.
- (5) Marine Region Responses to Industry Representatives' Requests for More Clarity and Information from the March 25, 2004 DHAC Meeting April 23, 2004.
- (6) Meeting Notes, Public/Scoping Meeting, April 13, 2004, Bodega Bay, California.
- (7) Meeting Notes, Public/Scoping Meeting, April 13, 2004, Sausalito, California.
- (8) Meeting Notes, Director's Herring Advisory Committee Meeting, April 30, 2004, Sausalito, California.

(e) Public Discussions of Proposed Regulations Prior to Notice Publication:

- (1) Director's Herring Advisory Committee Meeting, March 25, 2004, San Francisco, California.
- (2) Public Meeting, April 13, 2004, Sausalito, California.

- (3) Director's Herring Advisory Committee Meeting, April 30, 2004, Sausalito.
- (4) Director's Herring Advisory Committee Meeting, April 30, 2004, Sausalito, California.

IV. Description of Reasonable Alternatives to Regulatory Action:

(a) Alternatives to Regulation Change:

- (1) Alternative 1: Use of the Combined Biomass Survey Method to Set the Annual Spawning Biomass Estimate and Quota for San Francisco Bay.

A fishing quota of 4,500 tons for San Francisco Bay, representing approximately 10 percent of the 2003-04 combined spawning biomass estimate of 45,276 tons. A fishing quota based on the combined biomass estimate of the spawn deposition and hydro-acoustic surveys would be consistent with the Department's methodology for estimating biomass from 1990 through 2003. Over time the population trends the two surveys depict have diverged. Following the 2002-03 season, the Department's concerns regarding the population and the survey results led the Department to seek an independent peer review to evaluate the use of a stock assessment model for San Francisco Bay and to evaluate the two survey methodologies (see Attachment 1). One of the findings of the peer review panel was that the Department's method of combining the two surveys has contributed to overexploitation by overestimating biomass. The peer review panel recommended the use of the spawn deposition survey as the means of determining the annual spawning biomass estimate used in setting the fishery quota. Both the spawn deposition survey estimate (34,400 tons) and the combined spawning biomass estimate (45,276 tons) are below the 26-year average of 51,521 tons.

The Department does not support this alternative based on the following concerns: (1) the process of combining the two surveys may lead to the overestimation of the spawning biomass; and (2) the Department believes the estimated below average biomass warrants a conservative management strategy. A conservative management approach in setting the annual quota is best achieved through a determination of the spawning biomass by means of the spawn deposition alone.

- (2) Alternative 2: Reduction of the San Francisco Bay Gill Net Mesh Size.

Some members of the herring industry have requested that the Department reduce the mesh size in San Francisco Bay from 2-1/8 inch mesh to 2 or 2-1/16 inch mesh. They would like to make this change either permanently or on an experimental basis. One of the Department's principal management goals in order to restore and maintain the herring fishery is to harvest age 4 fish and older from the population. Current information regarding the age composition of the commercial gill net fishery catch in San Francisco Bay indicates that a large percentage of age 3 fish are present in the catch. A mesh size reduction at this time would further increase the take of age 3 and potentially age 2 fish in the commercial catch, and would be inconsistent with the Department's management goals.

The San Francisco Bay herring population is presently near the lowest abundance level observed since the 1970s. Further, the Department's stock

assessment for the 2003-04 season may indicate a continued low abundance of older fish, resulting in the below-average population biomass. Since the 1997-98 El Niño event, there has been no marked return of the older age classes (6-, 7-, and 8-year-old fish) to the San Francisco Bay herring population. The smaller numbers of older year class fish present in the population may have resulted, recently, in increasing fishing pressure on the younger year classes available to the fishery (4- and 5-year-old fish). While the Department has seen 2- and 3- year-old fish as recruits in the population each year, those same year classes have not recruited in large numbers as 3- and 4-year-old fish, and subsequently as 4- and 5-year-old fish. Based on the Department's 2003-04 population assessment and in accordance with the 2003 California Sea-Grant convened peer review panel's recommendation, the Department considers the San Francisco Bay herring population to be in a rebuilding stage. The implementation of a rebuilding policy requires a conservative approach to the management of the fishery. A reduction of the gill net mesh size would increase fishing pressure on the remaining younger year classes left in the population and would be counter to the conservative management approach implemented by the Department for the San Francisco Bay fishery.

- (b) No Change Alternative:
A no change alternative would provide a quota for the 2004-05 fishing season of 2,200 tons.
- (c) Consideration of Alternatives:
In view of information currently possessed, no reasonable alternative considered would be more effective in carrying out the purposes for which the regulation is proposed or would be as effective as and less burdensome to the affected private persons in the long run than the proposed regulation.

V. Mitigation Measures Required by Regulatory Action:

The proposed regulatory action will have no negative impact on the environment; therefore, no mitigation measures are needed.

VI. Impact of Regulatory Action

The potential for significant statewide adverse economic impacts that might result from the proposed regulatory action has been assessed, and the following initial determinations relative to the required statutory categories have been made:

- (a) Significant Statewide Adverse Economic Impact Directly Affecting Businesses, Including the Ability of California Businesses to Compete with Businesses in Other States:

No adverse economic impacts. The proposed action for the 2004-05 season will have no adverse economic impact directly affecting business, including the ability of California businesses to compete with businesses in other states.

The proposed regulations could benefit approximately 430 commercial herring fishermen and two processing plants in California, all of which are small businesses as defined under Government Code Section 11342.610. The direct impacts arising from the 2004-05 proposed interim management measures would result in an increase in the San Francisco Bay herring fishery quota, and a herring quota in excess of 2003-04 landings in Tomales Bay. (The San

Francisco fishery quota was reduced to 2200 tons in 2003-04 due to concerns regarding the age structure of the population.) By increasing the San Francisco quota to 3440 tons, we would project potential 2004-05 ex-vessel revenue increases of as much as \$4,960,000 in the San Francisco fishery alone, for the 389 San Francisco herring fishermen. This is based on historical price data for years when herring roe commanded prices as high as \$2.00 a pound (1240 tons x 2000 lbs/ton x \$2/lb = \$4,960,000). Additionally, a 400 ton quota is proposed for the Tomales Bay herring fishery for 2004-05. This Tomales Bay quota is down from the 500 ton quota allowed for the 2003-04 season, though fishermen only harvested 300 tons of the available 500 ton quota in 2003-04. Thus the Tomales Bay herring fishery quota for 2004-05 represents a potential revenue increase of as much as \$400,000 for the 34 fishermen in that fishery (100 tons x 2000 lbs/ton x \$2/lb = \$400,000). The 2004-05 Humboldt Bay and Crescent City Harbor herring fishery quotas remain the same as for the 2003-04; Humboldt 60 tons and Crescent City 30 tons, for 4 and 3 fishermen respectively. On average, the proposed regulations represent potential individual revenue increases of approximately \$9,674 for each herring fishermen Statewide. Total ex-vessel revenue projections Statewide for the 2004-05 herring season could be as high as \$15,720,000 (3930 tons x 2000 lbs/ton x \$2/lb = \$15,720,000).

- (b) Impact on the Creation or Elimination of Jobs Within the State, the Creation of New Businesses or the Elimination of Existing Businesses, or the Expansion of Businesses in California:

None.

- (c) Cost Impacts on a Representative Private Person or Business:

The agency is not aware of any cost impacts that a representative private person or business would necessarily incur in reasonable compliance with the proposed action. There are no new fees or reporting requirements stipulated under the proposed regulations.

- (d) Costs or Savings to State Agencies or Costs/Savings in Federal Funding to the State:

None.

- (e) Nondiscretionary Costs/Savings to Local Agencies:

None.

- (f) Programs mandated on Local Agencies or School Districts:

None.

- (g) Costs Imposed on Any Local Agency or School District that is Required to be Reimbursed Under Part 7 (commencing with Section 17500) of Division 4:

None.

- (h) Effect on Housing Costs:

None.

INFORMATIVE DIGEST\POLICY STATEMENT OVERVIEW

Under existing law, herring may be taken for commercial purposes only under a revocable permit, subject to such regulations as the Fish and Game Commission shall prescribe. Current regulations specify: permittee qualifications; permit application procedures and requirements; permit limitations; permit areas; vessel identification requirements; fishing quotas; seasons; gear restrictions; quotas; and landing and monitoring requirements.

The proposed regulatory changes will establish fishing quotas by area for the 2004-05 herring fishing season, based on the most recent assessments of the spawning populations of herring in San Francisco and Tomales bays. The Department of Fish and Game (Department) is proposing a fishing quota of 3,440 tons (10 percent of the 2003-04 estimated spawning biomass) for San Francisco Bay. An initial 400-ton fishing quota (3.3 percent of the 2003-04 estimated spawning biomass of 12,124 tons) is proposed for Tomales Bay with provisions to increase the quota in-season if escapement goals are achieved by February 15, 2004. This season, the recommendation for an in-season increase is as follows:

- If the spawning escapement in Tomales Bay is more than 4,000 tons, increase the quota to 500 tons.

The proposed amendment specifies that the length of the meshes of any gill net used or possessed in the roe fishery in Tomales Bay, for the 2004-05 season only, shall be no less than 2 inches or greater than 2 ½ inches. The proposed one-year continuation of the regulation, originally approved for the 2000-01, 2001-02 and 2002-03, 2003-04 seasons only, will allow the Department to continue to evaluate the effect of reduced mesh length on the size and age composition of herring caught in 2 inch mesh gill nets.

Other changes relating to the herring season dates and corrections to referenced subsections are recommended to coincide with changes in the annual calendar and for accuracy.

The following is a summary of those proposed changes in Section 163, Title 14, CCR:

- Set the dates of the roe herring fisheries in San Francisco Bay from 5 p.m. on Sunday, December 5, 2004 to noon on Thursday, December 23, 2004 ("DH" gill net platoon only), and from 5:00 p.m. on Sunday, January 2, 2005 to noon on Friday, March 11, 2005.
- Set the dates of the roe herring fisheries in Tomales Bay from 5:00 p.m. on Sunday, December 26, 2004 until noon on Friday, December 31, 2004, and from 5:00 p.m. on Sunday, January 2, 2005 to noon on Friday, February 25, 2005.
- A correction to references to subsection (g)(4)(B) in subsection (h) is proposed for accuracy. The correct reference is subsection (g)(4)(A).